

REMARKS

Claims 1 and 3 through 15 are pending in this application. The specification has been amended to address formalistic issues, claims 1, 3, 4 and 9 amended and claim 2 cancelled. Care has been exercised to avoid the introduction of new matter. Specifically, the limitations of claim 2 have been incorporated into claim 1 and claim 2 cancelled, and the dependency of claims 3, 4 and 9 has been amended to address the grammatical oversight. Applicants submit that the present Amendment does not generate any new matter issue.

The Drawings

The Examiner requested formal drawings. However, formal drawings were submitted on June 16, 2004. At any rate, for the Examiner's convenience, a copy of the formal drawings submitted on June 16, 2004 are submitted herewith as Exhibit A.

Specification

The Examiner objected to the disclosure noting an apparent misspelling. In response the specification has been amended to address the spelling issue raised by the Examiner, thereby overcoming the stated basis for the objection to the disclosure. Accordingly, withdrawal of the rejection to the disclosure is solicited.

Claim Objections

The Examiner objected to claim 9 noting an apparent grammatical issue. In response claim 9 has been amended to address the issue raised by the Examiner, thereby overcoming the stated basis for the objection. Accordingly, withdrawal of the objection to claim 9 is solicited.

Claim 1 was rejected under 35 U.S.C. §102 for lack of novelty as evidenced by Yamazaki et al.

This rejection is traversed. Indeed, this rejection has been rendered moot by incorporating the limitations of claim 2 into claim 1, claim 2 not being subject to this rejection. Accordingly, withdrawal of the rejection of claim 1 under 35 U.S.C. §102 for lack of novelty as evidenced by Yamazaki is solicited.

Claims 2 through 15 were rejected under 35 U.S.C. §103 for obviousness predicated upon Yamazaki et al. in view of Wolf et al.

In the statement of the rejection, the Examiner admitted that Yamazaki et al. fail to disclose the concept of providing nitride layers on the main surface of the semiconductor substrate on each side of the polysilicon gate electrode precursor. Nevertheless, the Examiner concluded that one having ordinary skill in the art would have been motivated to modify the particular methodology of Yamazaki et al. by providing the silicon nitride layers on the main surface of the semiconductor substrate on each side of the polysilicon gate electrode precursor in view of Wolf et al. This rejection is traversed.

Initially, Applicants will treat this rejection as though applied against independent claim 1, since the limitations of claim 2 have been incorporated into claim 1. Applicants submit that the Examiner did not establish the requisite fact-based motivation.

In order to establish the requisite realistic motivation, the Examiner must make clear and particular factual findings as to a specific understanding or specific technological principle and then, based upon such factual findings, explain **why** one having ordinary skill in the art would have been motivated to modify **particular prior art**, in this case the particular methodology of

Yamasaki et al., to arrive at the claimed invention. *In re Lee*, 237 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002); *Ecolchem Inc. v. Southern California Edison, Co.* 227 F.3d 1361, 56 USPQ2d 1065 (Fed. Cir. 2000); *In re Kotzab*, 217 F.3d 1365, 55 USPQ 1313 (Fed. Cir. 2000); *In re Dembiczak*, 175 F.3d 994, 50 USPQ2d 1614 (Fed. Cir. 1999); *In re Rouffet*, 149 F.3d 1350, 47 USPQ2d 1453 (Fed. Cir. 1998). That burden has not been discharged.

Specifically, Yamazaki et al. relate to oxidizing a gate electrode precursor in addition to oxidizing an oxide layer already on the semiconductor substrate. The secondary reference to Wolf et al., while offering many **generalizations** about silicon nitride, does **not** provide the requisite factual basis which would have let one having ordinary skill in the art to zero in on the particular methodology of Yamazaki et al. to arrive at the claimed invention. This is because silicon nitride is disclosed as a masking layer for oxidation when forming isolation regions. In other words, the disclosed technique is employed for **oxidizing** a selective portion of a semiconductor substrate. Yamazaki et al. are not **oxidizing** a selective portion of the semiconductor substrate. **That has already been done.** In fact, Yamazaki seek to further oxidize portions of the already formed oxide layer 112 shown in Fig. (A), such at both the top and the bottom, as apparent from Fig. 5(b). This is not unintentional as apparent from the paragraph bridging columns 5 and 6 of Yamazaki et al., wherein it is specifically disclosed that a silicon oxide film “...is newly formed on the silicon substrate incorporating therebetween a gate insulator film.” Clearly, it is the intention of Yamazaki et al. to **reoxidize** the surface of the silicon substrate.

Indeed, advertent to column 6 of Yamazaki et al., lines 1 through 7, it should be apparent that “...the silicon substrate **below** the oxide film 112 comprised of silicon oxide is **newly oxidized**.... This is no small matter to Yamazaki et al. because it eliminates problems attendant

upon surface irregularities, as noted from the ultimate sentence of the paragraph bridging columns 5 and 6 which reads as follows:

A surface irregularity in a small extent as in the present case
has no particular problem on the resulting semiconductor element.

Based upon the foregoing, it should be apparent that one having ordinary skill in the art would **not** have been realistically motivated to cover up and protect from oxidation silicon oxide film 112 illustrated in Fig. 5(A) of Yamazaki et al. because that would **prevent** the formation of the **newly formed** silicon oxide film 115 and in addition prevent the oxidation of the silicon substrate below oxide film 112 to remove irregularities. In other words, one having ordinary skill in the art would not have been motivated to modify the particular methodology of Yamazaki et al. by providing a silicon nitride film on oxide film 112 on each side of the gate precursor 111 because this is **antithetic**, repeat **antithetic**, to the expressed objective of Yamazaki et al. to achieve a silicon substrate having a surface which "...is sufficiently smooth." (Sentence bridging columns 5 and 6 of Yamazaki et al.). It is well settled that one having ordinary skill in the art can **not** be realistically motivated to modify a reference in a manner **inconsistent** with the disclosed objective. See, for example, *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992); *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984); *In re Schulpen*, 390 F.2d 1009, 157 USPQ 52 (CCPA 1968).

Based upon the foregoing, it should be apparent that a prima facie basis to deny patentability to the claimed invention has not been established for lack of the requisite fact-based motivation. Applicants, therefore, submit that the imposed rejection of claims 2 through 15, including claim 1, under 35 U.S.C. §103 for obviousness predicated upon Yamazaki et al. in view of Wolf et al. is not factually or legally viable and, hence, solicit withdrawal thereof.

Application No.: 10/759,171

Based upon the foregoing, it should be apparent that the imposed objections and rejections have been overcome, and that all pending claims are in condition for immediate allowance. Favorable consideration is, therefore, solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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